

WHAT IS CLAIMED IS:

1. A starting apparatus for starting an engine comprising:

a drive motor generating a rotational force;

a reduction gear device including:

a sun gear disposed to rotate by receiving the rotational force from the drive motor;

an internal gear arranged concentrically with the sun gear on an outer periphery of the sun gear and rotatable in a circumferential direction;

a planetary gear meshing with the sun gear and the internal gear;

a carrier rotatably supporting the planetary gear and outputting the rotation of the sun gear by reducing a speed thereof; and

a rotation restricting unit to restrict rotation of the internal gear, wherein

the rotation restricting unit includes:

a movable locking portion provided to move with the internal gear in the circumferential direction;

a movable contact portion disposed at a predetermined distance from the movable locking portion in the circumferential direction and movable with the movable locking portion;

an unmovable locking portion held in a state unmovable in the circumferential direction and opposed to the movable locking portion in the circumferential direction;

an unmovable contact portion held in a state unmovable in the circumferential direction and opposed to the movable contact portion

in the circumferential direction; and

a shock absorbing member elastically held between the movable locking portion and the unmovable locking portion for elastically receiving a reaction force applied to the internal gear when the drive motor starts to rotate the engine via the reduction gear device, wherein a compression amount of the shock absorbing member is restricted by bringing the movable contact portion into contact with the unmovable contact portion, and wherein the movable contact portion and the unmovable contact portion are disposed such that the movable contact portion and the unmovable contact portion make contact at least at outside diameter portions thereof first when the movable contact portion is brought into contact with the unmovable contact portion.

2. The starting apparatus according to claim 1, wherein

the movable contact portion has a first side wall and a second side wall opposite to each other in the circumferential direction, the first side wall facing the unmovable contact portion,

the movable contact portion is disposed such that an outside diameter portion of the first side wall leads an inside diameter portion of the first side wall with respect to a radial line from a center axis of the rotation restricting unit in its rotation direction, the radial line passing through the inside diameter portion of the first side wall.

3. The starting apparatus according to claim 2, wherein the second side wall of the movable contact portion is disposed such that an

outside diameter portion thereof leads an inside diameter portion thereof with respect to a radial line from the center axis of the rotation restricting unit in its rotation direction, the radial line passing through the inside diameter portion of the second side wall.

4. The starting apparatus according to claim 1, wherein
the unmovable contact portion has a first side wall and a second side wall opposite to each other in the circumferential direction, the first side wall facing the movable contact portion,
the first side wall is disposed such that an outside diameter portion thereof protrudes more than an inside diameter portion thereof with respect to a radial line from the center axis of the rotation restricting unit, the radial line passing through the inside diameter portion of the first side wall.

5. The starting apparatus according to claim 2, wherein
the unmovable contact portion has a first side wall and a second side wall opposite to each other in the circumferential direction, the first side wall facing the movable contact portion,
the first side wall of the unmovable contact portion is disposed such that an outside diameter portion thereof protrudes more than an inside diameter portion with respect to a radial line from the center axis of the rotation restricting unit, the radial line passing through the inside diameter portion of the first side wall of the unmovable contact portion.

6. The starting apparatus according to claim 1, wherein the movable contact portion and the unmovable contact portion are disposed such that outside diameter portions thereof are located in closer proximity to each other than their respective inside diameter portions.

7. The starting apparatus according to claim 6, wherein the rotation restricting unit further includes a cylindrical resin member and a case member opposed to each other in an axial direction, wherein

the internal gear is provided on an inner wall of the cylindrical resin member,

the movable contact portion and the movable locking portion are formed on the cylindrical resin member to protrude in the axial direction toward the case member, and

the unmovable contact portion and the unmovable locking portion are formed on the case member to protrude in the axial direction toward the cylindrical resin member.